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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,407	08/01/2000	Takanobu Noguchi	Q60265	5925

7590 10/05/2004

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EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/630,407

Applicant(s)

NOGUCHI ET AL.

Examiner

Marie R. Yamnitzky

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004 and 30 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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1. This Office action is in response to applicant's amendment filed June 22, 2004, which amends claims 1 and 2.

This Office action is also in response to the supplemental response filed June 30, 2004.

Claims 1, 2 and 4-14 are pending.

2. The examiner notes that the correct status identifier for claim 8 in the June 20th amendment is --Previously Presented-- instead of "Previously Amended".

Any response to this Office action should include a complete listing of all claims with proper status identifiers, even if no further amendments are made to the claims, so as to correct the improper identifier for claim 8.

3. Applicant's amendment filed June 22, 2004 overcomes the rejection of claims 2 and 5-14 under 35 U.S.C. 112, 2nd paragraph, as set forth in the Office action mailed December 18, 2003.

4. Claims 1, 2 and 4-14 stand rejected under 35 U.S.C. 112, first paragraph, for reasons of record in the Office action mailed December 18, 2003.

5. Applicant's arguments filed June 22, 2004 and June 30, 2004 have been fully considered but they are not persuasive.

Applicant refers to arguments made in the amendment filed October 14, 2003. The examiner's position regarding those arguments remains as set forth in the Office action mailed December 18, 2003.

Applicant argues that condition (c) can be accurately determined by using the absorption edge wavelengths of the homopolymers. To the best of the examiner's knowledge, the absorption edge wavelengths for the full scope of homopolymers of formulae (1), (3) and (4) are not readily available as in a textbook, encyclopedia or other reference(s). Accordingly, one of skill in the art would have to make various homopolymers within the scope of homopolymers of formulae (1) and (3) in order to accurately determine whether condition (c) is met for claim 1 and dependents, and would have to make various homopolymers within the scope of homopolymers of formulae (1), (3) and (4) in order to accurately determine whether condition (c) is met for claim 2 and dependents. The examiner maintains the position that given the thousands of different repeating units within the scope of the formulae, undue experimentation would be required.

On page 11 of the June 22nd amendment, applicant presents remarks regarding what is said to be generally known regarding the relationship between the absorption edge wavelength, spreading of the conjugation system, presence of an electron donating substituent, and heterocyclic aromatic rings. The homopolymers of formulae (1) and (3) can differ from each other in multiple ways, and the general guidelines regarding shifts in absorption edge wavelength

set forth in applicant's remarks are insufficient to accurately determine whether condition (c) is met for the full scope of the present claims. For example, while applicant states that it is generally known that when the aromatic ring has a heterocyclic structure, the absorption edge wavelength shifts to a longer wavelength direction, each of the aromatic rings of the claimed polymer may have a heterocyclic structure. Also, the claims do not merely require the absorption edge wavelength of one homopolymer to be greater than the absorption edge wavelength of a second homopolymer (and a third homopolymer in the case of claim 2), the absorption edge wavelengths must differ by a specified minimum amount as provided by the relation set forth in claims 1 and 2. Therefore, one must not only know whether a change in structure will increase or decrease the absorption edge wavelength, one must know how much of an increase or decrease will be provided by the change in structure.

With respect to applicant's arguments regarding the guidance provided by Example 1, the arguments are not persuasive because none of the pending claims require Ar₁ to be a 2,2'-dialkoxy-1,1'-biphenyl-4,4'-diyl group.

With respect to applicant's arguments regarding the ability to accurately determine the absorption edge wavelength of many homopolymers from a few/several kinds of typical homopolymers, it is the examiner's position that there is insufficient evidence of record to support these arguments and it is not clear what would be considered "typical" homopolymers given the broad scope of repeating units of formulae (1), (3) and (4) as defined in the claims.

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6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
October 01, 2004



**MARIE YAMNITZKY
PRIMARY EXAMINER**

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